Edge Enhancer for RGB-Beyer to YUV 4:2:0 Converter With Sharpened-Y Feedback to U, V Transformer

Abstract of Disclosure

Red, Green, Blue (RGB) pixels in a Beyer pattern are converted to YUV pixels by a converter. The converter does not interpolate RGB pixels to fill in missing RGB color values but instead performs interpolation during conversion to YUV. An edge-enhancement filter is applied to the preliminary Y values to generate final Y values with sharpened edges. The final Y values are combined with R or B pixels from the Beyer pattern to generate U and V chrominance values. Since the preliminary luminance Y values are edge-enhanced, and then the edge-enhanced Y values are used to generate the U, V, values, enhancement improves U and V values as well. Rather than use full-frame intermediate buffers, a 7-line RGB buffer, a 5-line preliminary Y value buffer, and a 3-line final Y buffer can be used.

Figures